



ANTIQUE DEALERS GUIDE TO
GEMOLOGY

Compliments of MARVIN ROGERS
ARTISTIC JEWELRY CORP.
1139 David Whitney Bldg.
Detroit, Michigan 48226

Phone No. 313/961-1439

Artistic Corporation

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Dear Customer:

From time to time we will write brief letters to help you understand more about jewelry, etc. Included for the future will be a better understanding of Gold and Silver alloys and their purity or Karat markings, both European and American. We will also try to add to your knowledge of precious and semi-precious stones including some easy methods of identification and approximate values. This will help you order, on approval, larger stones that customers often wish to examine.

In the meantime we are writing this letter to cover repair of jewelry, the general cause of broken stones and how to avoid this problem as much as possible. Please bear in mind that regardless of the cause, we will always replace stones and/or repair rings, etc. without charge. The exception is stone loss where individual stones are in excess of \$300 retail.

Most repairs we receive are for replacement of lost or chipped stones. Customers frequently state that "the stone just fell out" and they often believe this; however, the ring must receive a blow of some sort to cause the problem. Inasmuch as the ring itself takes the blow such as against a desk, table, dishes, etc. the wearer feels no impact against the finger. When the surface of the ring is struck it can cause the prong to be impacted against the stone causing a chip beneath the prong. The chip will eventually work its way out of the mounting leaving the stone held in place by only three instead of the usual four prongs and eventually the rest of the stone will fall out. This is especially true with Opals which are soft. Other stones that can cause repair problems most often are tiny seed pearls, held in by a special glue. Being small they also suffer the results of a

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bump and are lost.

We certainly have no objections to the free replacement of stones but unfortunately a customer becomes angry thinking it be the fault of the ring. Consequently we suggest you explain, with great patience, that stones cannot break or fall out by themselves and then add the above. Be sure to state that we will certainly repair and replace stones free indefinitely, but we would still like them to understand how this problem happens. It will very likely make the customer appreciate your professional knowledge and concern which then makes for improved customer relations.

On occasion you will find a complaint about a ring not fitting properly after being sized. Water retention can change the fit of a ring by as much as a full size within 24 hours. Summer and winter can also cause this problem and in some cases a difference will be apparent between night and morning or even when engaging in sports such as golf and tennis. Again a simple explanation is helpful. If this variation is great enough to cause the chance of the ring being lost then we suggest you have the customer find her correct size during an average period. Then have the ring sized $\frac{1}{4}$ size less and have the jeweler who is sizing it make it an oval shape, by flattening the top or bottom. Fingers are actually a bit wider from side to side as against top to bottom. We do not recommend "arthritic shanks" which are fitted with inside springs. They usually fail to work after a short time for a variety of reasons.

Rings that turn black are not caused by the ring having a "defect". Instead try to understand that 24 Karat or Pure Gold will never turn the finger black and in most cases 10 or 14 Karat will not either. The

explanation is that a small quantity of copper is one of the metals added to pure gold for hardening yellow gold. The perspiration of a person contains a quantity of salt and when brought into contact with the copper of the ring, it will, with a very few people, start an oxidization process similar to water producing rust in iron. Eventually this process will show up as a black deposit on the finger. It does no harm but is unsightly. Usually the finger becomes "used" to the ring and perspiration under the ring will lessen or stop. The simple solution is to remove the ring from time to time and with a toothbrush wash it with soap and rinse in hot water. It is important to wash off the black discoloration on the finger or it will continue to build. In cases where the customer has an extreme reaction we suggest you coat the underside of the ring with clear nail polish from time to time.

If there are any questions please write us.

Sincerely,

Marvin Rogers
Marvin Rogers

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WHAT IS GOLD?

Pure gold, as found in the earth is exactly what it says "pure". To understand the term Karat simply exchange the expression of 24 Karat as being another way of saying 100% gold or Pure gold. All three terms are the same. Consequently, 18 Karat gold is $\frac{3}{4}$ ths of 24 Karat, and is thus 75% pure. In Europe the decimal system is used (.750). 14 Karat Gold is 58.5% pure and is also so marked in Europe. In other words, in Europe, the decimal system replaced the Karat Mark. Do not confuse Karat with Carat. Karat is to identify the purity of Gold and Carat is to determine the weight of precious and semi-precious stones. The alloys mixed with pure gold are varied and used to harden the pure gold as well as produce the required color.

GOLD-FILLED OR ROLLED GOLD PLATE, these terms are the same. Usually you will find the stamp $\frac{1}{20}$ 10K G.F., which means one-twentieth, 10 Karat Gold-Filled. The term gold-filled is actually a backwards term. It is not gold filled, but in reality, brass (usually) sandwiched between two sheets of 10 Karat gold. These two outer layers make up $\frac{1}{20}$ th of the total mass. When the sheet is so formed it is then made into jewelry, usually by stamping. The Gold filled stamp is applied. In the case of Gold Plate, Electro Plated, etc., it is just that, and has a very short life. Gold filled wears quite well in jewelry with the exception of rings.

SOLID GOLD is any gold item which is 10 Karat, 14 Karat, 18 Karat, etc. England makes a 9 Karat, but below that, it is usually not acceptable in the United States. The stamp you will use and thus see will be 9K, 10K, 14K, 15K, 18K, 20K and 22K, perhaps even 24K. In England, however, the stamp is with a C, not a K. Other parts of Europe use the decimal system.

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TESTING FOR GOLD

You are now interested in knowing whether the item is solid gold or Gold Filled, and the test is quite simple. Remember that the center in almost all cases of Rolled Gold Plate or Gold Filled is copper or brass. A simple test consists of using a mild solution of Nitric acid. When this acid comes in contact with gold, it will do nothing more than sometimes discolor it somewhat, depending upon the Karat or purity. However, if it comes in contact with Brass or Copper, it will bubble and turn green at once and the test is no more complicated than that. However, you MUST be aware that you will have to go past the surface so a small file will be needed to cut into the metal slightly. Then when you use the Nitric acid, it can reach the interior and give you the answer. If you are concerned with the Karat of gold (10, 14, 18, etc.) you will have to obtain a black testing stone and possibly a set of gold tipped testing needles to compare the color as indicated on the needles when the item is rubbed on the testing stone surface.

VALUE

Gold, Silver, Platinum, etc., are measured in Troy Ounces, which is somewhat heavier than the Avodipuur Ounces used in weighing food, etc. Do not concern yourself with pounds, just ounces no matter how many are involved. Each Troy Ounce breaks down into 20 Pennyweight (DWT) or 31.10 Grams (GR). Consequently, if gold is worth \$400 per ounce then each pennyweight is worth 1/20th or \$20 and one gram is worth \$12.86. To break this down into Karat we suggest you use the following guide.

GOLD AT \$400 PER TROY OUNCE

20 DWT to an ounce (if you prefer using grams there are 31.10 grams per Troy ounce-approx. 2/3 of a pennyweight)

One Pennyweight (DWT) of Pure gold is\$20.00
400 divided by 20

One Pennyweight (DWT) of ONE Karat Gold is.....\$.83
20 divided by 24

One Pennyweight (DWT) of 10 Karat Gold is.....\$ 8.30
.83 multiplied by 10

One Pennyweight (DWT) of 14 Karat Gold is.....\$11.62
.83 multiplied by 14

One Pennyweight (DWT) of 18 Karat Gold is.....\$14.94
.83 multiplied by 18

ETC.

ETC.

ETC.

This is a very simple, and accurate method of determining value. Obviously you will need a gold scale to determine weight. BE CAREFUL. USE GOLD SCALES WITH CALIBRATED TROY OUNCES or you will be paying much more than you should if buying scrap gold. As a comparison, 16 ounces avodupois is about equal to 14.58 Troy. Both equal a pound.

The above scales can be easily computed as the gold price rises and falls. HOWEVER, DO NOT PAY the actual gold value. This is merely a guide. You should deduct at least 20% to cover refining cost, handling and profit, also stones that might be of no value, but add to the overall weight.

Sincerely,

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DIAMOND DETECTION

In the past, stones such as White Sapphire, White Garnet, Zircon, etc., synthetic or otherwise, all had the same weakness when it came to passing them off as diamonds. It was known as the 45 degree angle of viewing. Imagine the table of the diamond as the top and the widest portion as the girdle. When the imitation and the real diamond are viewed from the top, they appear quite similar. However, when examined from the 45 degree angle, which is halfway between the top and the side, there appears to be a deep shadow within the imitation. This is not so when looking at the diamond. The imitation seems "dead" from this side viewing. Consequently, detection is not too difficult.

Now we have the Cubic Zirconium, commonly referred to as C.Z. The refraction, or brilliance, of this stone is extremely close to that of the diamond and when viewed from the 45 degree angle, the above rule does not apply. Detection can be made by the use of highly sophisticated and expensive equipment, often confined to a gemological laboratory. Therefore, numerous frauds are reported. Jewelers with many years of experience were often helpless to detect the difference. Contrary to what you might expect, C.Z. stones are not always the only stone in a ring. Often they are mixed with diamonds in clusters, which caused more confusion. At this writing, there are C.Z. stones in almost any color, cut and shape. Furthermore, you will find them soon with flaws typical to the natural diamond. Combine this with "an excellent bargain" offered by a crook and the result is inevitable.

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SIMPLE DETECTION

A felt tip pen can usually be used to draw a line across the face of the stone. If the stone is a diamond, the line will be just as complete as when drawn on a piece of paper. It will not separate and it will stay as it was applied.HOWEVER, in the case of the Cubic Zirconium, you CANNOT draw such an uninterrupted line. It will immediately separate.... it will be thick and thin....it will draw apart. The most important thing to remember is that IT WILL NOT BE A NORMAL EVEN LINE. In the case of small stones it might require a loupe (jeweler's magnifying glass) to accurately see the line, but there will be the above difference. If you are in doubt, draw the line on a known diamond and notice the straight line. If you find the stone you are testing shows a similar line there is usually no problem. Remember, a small stone may be difficult to tell so do it more than once to check the characteristics of the line. The old story that only diamonds cut glass is a fallacy. Glass can cut glass.

WARNING: Some crooks have recently gone so far as to coat the C.Z. with a coating used on optics (binoculars, cameras, etc.). This will destroy the felt pen tip's value as the drawn line will be even and like that on a diamond. There is a small heat device available for testing if any of our customers are seriously concerned.

DIAMONDS AND OTHER STONES

While the felt tip pen will help you to avoid Cubic Zirconium, you must still acquire knowledge and experience of stones in general. We do NOT recommend that you make significant purchases of colored stones without help or experience, as synthetic variations are endless and may require

laboratory detection. If you are truly in doubt, we suggest you send it to the Gemological Institute of America (G.I.A.), 580 Fifth Ave., New York, N.Y. 10036 (Registered Mail). They will identify the stone, but will not appraise it.

Diamonds as well as other precious and semi-precious stones, are weighed in carats. 155-1/2 carats equal a troy ounce, so you can see how small one carat is. A carat is broken down into 100 equal amounts called points. In reality, it is the normal decimal system. Thus, the mark .01 is 1/100 of a carat, or one point, .17 stands for 17/100 or 17 points, etc.

To determine the correct weight of a diamond, ruby, emerald, etc. the stone is simply weighed on a diamond scale. The scale will read out so many carats and 100ths of a carat, or points. 1.46 Carats reads as 1 Carat 46 points. Inasmuch as most of the diamonds you will see are in rings, you have to approximate size. With practice and care you can come quite close. If you wish to become more involved, a scale called a "Moh" gage can be bought (under \$25.00) which measures the width and length of a round diamond plus odd shapes. These numbers are then compared to a table furnished with the measuring calipers to determine carat weight.

VALUE: The color of a diamond is an important factor in determining the worth. An absence of color, is commonly referred to as a "white" stone and is at the top of the quality grading of color, with value descending with the presence of yellow, brown, etc. They are also most valuable when free of carbon spots, white feather lines (which look like cracks) and internal blemishes. Although all natural stones have inclusions, the absence of inclusions affects the value.

DIAMOND SIZES HAVE DIFFERENT RELATIVE VALUE

The following scale is a guide:

ASSUME THAT A ONE CARAT DIAMOND IS WORTH \$5,000 PER CARAT, then
if the size is:

.01 to .05	it is then worth \$ 500 per carat
.06 to .20	" " " " 600 " "
.21 to .30	" " " " 800 " "
.31 to .42	" " " " 1000 " "
.43 to .65	" " " " 1500 " "
.66 to .85	" " " " 2000 " "
.85 to .99	" " " " 3500 " "
1.00 to 1.05	" " " " 5000 " "

therefore, a 36 point diamond of this quality is worth \$1,000 per carat or \$360.00 for the stone. To determine the value of the base price is a constant learning process of market values of diamonds. It will aid you to know that the most valuable diamond grade is 'D' color (G.I.A. Scale) which is without any trace of color, and also, totally flawless. The term flawless means that the diamond is examined under 10 power magnification and NO inclusions of ANY kind can be found, and at the price today, dealer to dealer is \$22,000 for a one carat diamond of this grade (D. Flawless, G.I.A. Grading). Try to establish a general grading classification as follows; put the colors into a selection, somewhat, as follows:

FINE WHITE.....WHITE.....FAINT YELLOW.....MEDIUM YELLOW

LIGHT BROWN.....BROWN.....GRAY OR SIMPLY A DARK STONE

One way to assist in determining color is to place the loose diamond or the ring into the interior fold of a piece of white paper. Any variation within the diamond of white will be evident. It is important that the diamond is viewed with daylight (preferably Northern Exposure) being the

only illumination, never with light bulbs.

Put the clarity into the following classifications:

FLAWLESS-this means you are examining the diamond with the aid of a 10 power jeweler's loupe and see nothing within the diamond.

VERY SLIGHTLY IMPERFECT-(VSI) this means the same type of magnification and and small white spots, perhaps very small black spots can be seen.

SLIGHTLY IMPERFECT-magnified again and more prominent inclusions visible.

EYE CLEAN-now you are looking without any magnification and to the naked eye no flaws are visible. This term is frequently used among dealers.

IMPERFECT-flaws that are visible but not extreme.

VERY IMPERFECT-precisely that.

Practice is an absolute must to recognize inclusions.

The above are not professional terms, but they are understood in their descriptive sense. If you learn to adapt stones to these classifications you can use a grading system of your own which becomes quite usable. When you find the value per carat of diamonds, examine the stone and give it one each of the above classifications and then when applied to the size, you will start learning the process called "comparing". This is the key to diamond value and actual appraising.

If the color is very dark brown and has big visible black spots, it may be worth less than \$1,000 per carat (again the one carat size). If the color is decent white and has no visible inclusions that you can see without magnification, it could be well worth \$4,000 per carat; again your cost. Fine white color brings a more important price consideration than the existence of flaws. Nobody wants a 5 carat obviously yellow diamond no matter how internally clean. On the other hand, customers will accept

inclusions that cannot be seen with the naked eye called eye clean more easily than a strong yellow color. A fine diamond today can easily be worth \$10,000 to \$15,000 per carat; but if you will examine and compare and compare and compare and remember, you will soon make intelligent choices.

Avoid chipped edges which can be seen.....avoid very heavily flawed diamonds; they are hard to sell. Be careful on odd shaped diamonds; the demand is not big among antique buyers. Again, look, examine, record your impression and the price per carat and the size. If it is a 30 or 60 point stone, you can consult the chart and determine the price per carat of the one carat size in that quality. These numbers then become your own value graph and can be adjusted with current market increases. Remember, nobody was born with the knowledge of diamonds, it all had to be learned from experience.

Sincerely,

Marvin Rogers
Marvin Rogers